

Risk diversification: spreading sources of supply and deliberately limiting dependencies in procurement

Risk diversification refers to the deliberate distribution of purchasing volumes, suppliers and supply routes across multiple sources in order to reduce dependence on individual providers. The aim is to ensure that failures, price fluctuations and geopolitical disruptions do not occur at a single point in the supply chain. In industrial procurement, it is a central instrument of procurement strategy and has a direct impact on security of supply, cost structure and negotiating position.

Key facts

- Risk diversification deliberately distributes procurement volumes across multiple suppliers, regions or technologies.
- The typical rule of thumb in practice is the 60/30/10 rule: main supplier, second supplier, residual volume for development and flexibility.
- Monopoly and single-source situations should be systematically identified and reduced through dual-sourcing strategies.
- Diversification increases administrative effort in the short term but reduces failure risk and price dependency in the long term.
- KPIs such as supplier concentration, single-source share and delivery reliability make the degree of diversification measurable.
- Dual qualifications require supporting processes such as series approval, sample tests and standardised specifications.

Definition: risk diversification

Risk diversification is the strategic spreading of procurement risks across multiple suppliers, locations, material sources or contract structures. It follows the principle of not making any critical input product disproportionately dependent on a single source.

Distinction from pure cost reduction

Diversification is often confused with multi-sourcing but goes beyond it: it also includes regional spread, alternative materials and different contract models. While pure cost reduction programmes rely on volume concentration, risk diversification deliberately accepts minor cost disadvantages in favour of security of supply. In practice, this typically means a price premium of a few per cent for the second supplier, which is treated as a risk premium.

Single Source, Dual Source, Multi Source

In single-source procurement, there is deliberately only one source of supply, for example for patent-protected components or close development partnerships. Dual sourcing distributes the volume

across two suppliers, multi sourcing across three or more. The choice of model depends on the part's criticality, changeover times, the specificity of the service and the market situation. A sound supplier evaluation provides the objective basis for this.

Methods and approach of risk diversification

Effective diversification begins with a structured risk analysis of the supplier portfolio and does not end with the selection of second sources, but rather with contractual and operational safeguards.

Risk analysis of the supplier portfolio

First, all purchased parts are assessed for criticality and availability risk, often in a portfolio matrix based on profit relevance and supply chain risk. Risk indicators include single-source situations, long procurement lead times, high levels of value creation in crisis regions and volatile raw material prices. Regular checks of supplier financial data supplement the analysis with credit and default risks of the existing sources.

Building and qualifying second sources

Building a second source typically comprises technical drawing review, sample production, initial sampling and final series approval. In practice, this process takes from several months to over a year depending on complexity. It is important not only to qualify the second source but also to actively supply it with small volumes so that it can ramp up at short notice in the event of a disruption. Procurement framework agreements secure volume corridors and call-off rights contractually.

Regional and contractual spread

In addition to the supplier level, diversification is also carried out geographically, for example by separating machining and final production, or through sites in different supply regions. Contractually, product liability clauses, price escalation clauses and clear award documentation, among other things, act against risk concentration with a single partner. Outsourcing decisions should also be examined for the additional dependencies they create.

Key KPIs for controlling diversification

Without measurable indicators, diversification remains a statement of intent. The following indicators have established themselves as control variables in practice and can be derived from master data and order data, provided that the data quality of the KPIs in the master data area is sound.

Concentration and source indicators

The most important figure is the share of purchasing volume attributable to single sources, often measured against the purchasing volume of critical parts. In addition, supplier concentration shows what percentage of the volume is accounted for by the three largest suppliers. Target values differ considerably by industry; in series production, a single-source share in the low single-digit percentage range is typically targeted.

Delivery and process indicators

Delivery reliability (OTIF) and average replenishment lead time show whether the diversified sources are genuinely resilient in the event of a disruption. The qualification lead time for new second sources measures how quickly the portfolio can react. In addition, service levels and inventory coverage of

critical parts indicate the actual level of protection.

Risks, limits and controls

Diversification is not an end in itself and brings its own risks. Without clear control, it leads to fragmented volumes, diluted terms and duplicated qualification effort.

Economic limits

Every additional source creates effort for administration, quality assurance and master data maintenance, for example consistent vendor master data. For parts with low volume and low criticality, full dual sourcing is often not economically viable. In such cases, a volume commitment with the main supplier can be the better alternative, combined with documented switching plans.

Quality and consistency across multiple sources

Despite identical drawings, different suppliers produce differently; tolerance strategies, tooling and process capabilities vary. Specifications, inspection instructions and traceability via batch numbers must therefore be regulated uniformly across manufacturers. Where deviations occur, a structured 8D containment process has proven effective in separating causes of failure by source.

Continuous monitoring

Diversification is not a one-off project but an ongoing process. Regular supplier meetings, early risk warning and updated market monitoring show whether the chosen spread is still appropriate. An up-to-date procurement guideline documents the applicable principles for the whole team.

Current developments: supply chain, sustainability and digitalisation

Regulatory requirements and geopolitical uncertainties noticeably increase the pressure to diversify. At the same time, digital tools make portfolio analysis easier and make resilience measurable.

Regulation and sustainability

The Supply Chain Act requires affected companies to analyse and prevent human rights and environmental risks in the supply chain. This, too, justifies spreading: anyone with only one source in a high-risk region carries a concentrated compliance risk. Sustainability criteria are thus increasingly becoming part of the diversification decision.

Digital portfolio analysis and scenario planning

Modern systems automatically identify single sources based on material master data and order history; a clean data foundation is a prerequisite. Coupling with Rough Cut Capacity Planning (RCCP) shows at an early stage whether alternative sources offer sufficient capacity during demand peaks. Cross docking and flexible logistics concepts also support the use of multiple supply routes.

Typical metrics

Single-source share: < 10 %

Share of critical purchasing volume with only one source of supply

Top 3 supplier concentration: < 50 %

Share of total volume with the three largest suppliers

Delivery reliability (OTIF): > 95 %

on-time and in-full deliveries per source

Second-source qualification lead time: 3–12 months

depending on component complexity and scope of approval

Practical example

A medium-sized mechanical engineering company had sourced a critical cast component from a single foundry supplier for eight years. When this supplier throttled deliveries for months due to an energy shortage, assembly came to a standstill several times. The company then analysed its entire catalogue part portfolio for single-source risk and built up second sources for the ten most critical component groups.

- Risk matrix covering all purchased parts, focusing on single sources and changeover times
- Dual qualification of two foundries including sample tests and series approval
- Framework agreements with volume corridors (typically 70/30) and defined call-off rights
- Quarterly supplier evaluation and regular supplier meetings for early risk detection

Conclusion

Risk diversification is a central control instrument of modern procurement that addresses security of supply, negotiating power and compliance risks alike. It demands an honest analysis of one's own dependencies and the willingness to maintain second sources permanently rather than merely keeping them available. Economic limits must be taken seriously: not every part needs a second source, but every critical part needs a documented switching plan. Those who pursue diversification with clear KPIs, solid contracts and regular monitoring make their supply chain measurably more resilient. The investment typically pays for itself at the first serious supply failure.

Frequently asked questions

What does risk diversification mean in procurement?

Risk diversification refers to the deliberate distribution of purchasing volumes across multiple suppliers, regions or contract models in order to reduce dependence on individual sources. It serves to ensure security of supply and strengthens the negotiating position. The key point is not to tie critical parts disproportionately to a single source of supply.

How many suppliers are sensible for one part?

In practice, the 60/30/10 rule has proven effective: around 60 per cent for the main supplier, 30 per cent for the second source and a residual volume for flexibility and development. For uncritical C-parts, a single source with a documented switching plan is often sufficient. The right number depends on criticality, changeover time and the market situation.

What does setting up a second source cost?

The costs comprise sample production, sampling, approval testing and ongoing multiple-source management, and vary considerably depending on component complexity. The second source's prices

are typically a few per cent above those of the main supplier, which should be treated as a risk premium. The real benefit becomes apparent in the downtime avoided during supply failures.

When is single sourcing the right strategy despite the risk?

Single sourcing makes sense for patent-protected parts, close development partnerships, or very low criticality combined with low volumes. What matters then is actively managing the residual risk: safety stocks, agreed capacity reserves and a documented contingency plan. Regular supplier evaluations keep the risk visible.

Which KPIs measure the degree of diversification?

Key indicators are the single-source share of purchasing volume, supplier concentration (share of the top three suppliers), OTIF delivery reliability and the qualification lead time for new sources. In addition, inventory coverage of critical parts provides insight. A clean data foundation in the master data systems is essential.

What contribution does the Supply Chain Act make to diversification?

The Supply Chain Act (Lieferkettengesetz) requires affected companies to manage risks along the entire supply chain, which makes single sources in high-risk regions particularly problematic. Diversification reduces this concentrated compliance risk. However, legal details should always be reviewed on a case-by-case basis.